

EXHIBIT A

Corephotonics Ltd. v. Apple Inc., Case Nos. 3:17-cv-06457-JD and 5:18-cv-02555-JD (consolidated)

U.S. Patent No. 9,185,291 is asserted in the -6475/-2555 consolidated action. U.S. Patent Nos. 9,661,233, 10,326,942, 10,356,332, and 10,230,898 are asserted in related action 5:19-cv-4809-JD.

Corephotonics seeks to lift the stay as to the '291 patent. All asserted claims of the '291 patent are challenged in a pending request for reexamination (Exhibit C).

With respect to the '233, '942, '332, and '898 patents, the PTAB issued final written decisions finding all challenged claims unpatentable. The PTAB's decisions have been appealed to the Federal Circuit.

| '291 Patent | '233 Patent | '942 Patent | '332 Patent | '898 Patent |
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| 1. A zoom digital camera comprising: a) a Wide imaging section that includes a fixed focal length Wide lens with a Wide field of view (FOV), a Wide sensor and a Wide image signal processor (ISP), the Wide imaging section operative to provide Wide image data of an object or scene; | 1. A multiple aperture zoom digital camera, comprising: a) a Wide imaging section that includes a Wide sensor and a fixed focal length Wide lens with a Wide field of view (POV), the Wide imaging section operative to output a Wide image; | 1. A multiple aperture zoom digital camera, comprising: a) a Wide imaging section that includes a Wide sensor and a fixed focal length Wide lens with a Wide field of view (FOV), the Wide imaging section operative to output a Wide image; | 1. A dual-aperture zoom digital camera comprising: a) a Wide imaging section that includes a fixed focal length Wide lens with a Wide field of view FOV _w and a Wide sensor, the Wide imaging section operative to provide Wide image data of an object or scene; | 1. A zoom digital camera comprising: a) a Wide imaging section that includes a fixed focal length Wide lens with a Wide field of view (FOV) and a Wide sensor, the Wide imaging section operative to provide Wide image data of an object or scene; |
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| b) a Tele imaging section that includes a fixed focal length Tele lens with a Tele FOV that is narrower than the Wide FOV, a Tele sensor and a Tele ISP, the Tele imaging section operative to provide Tele image data of the object or scene; and | b) a Tele imaging section that includes a Tele sensor and a fixed focal length Tele lens with a Tele POV that is narrower than the Wide POV, the Tele imaging section operative to output a Tele image; and | b) a Tele imaging section that includes a Tele sensor and a fixed focal length Tele lens with a Tele FOV that is narrower than the Wide FOV, the Tele imaging section operative to output a Tele image; and | b) a Tele imaging section that includes a fixed focal length Tele lens with a Tele field of view FOVT that is narrower than FOVW and a Tele sensor, the Tele imaging section operative to provide Tele image data of the object or scene; and | b) a Tele imaging section that includes a fixed focal length Tele lens with a Tele FOV that is narrower than the Wide FOV and a Tele sensor, the Tele imaging section operative to provide Tele image data of the object or scene; and |
| c) a camera controller operatively coupled to the Wide and Tele imaging sections | c) a camera controller operatively coupled to the Wide and Tele imaging sections | c) a camera controller operatively coupled to the Wide and Tele imaging sections and configured, | c) a camera controller operatively coupled to the Wide and Tele imaging sections | c) a camera controller operatively coupled to the Wide and Tele imaging sections |
| the camera controller configured to combine in still mode at least some of the Wide and Tele image data to provide a fused output image of the object or scene from a particular point of view and to provide without fusion continuous zoom video mode output images of the object or scene, each output image having a respective output resolution; | c) a camera controller ... configured to reduce an image jump effect seen in video output images and to provide continuous zoom video output images by executing registration between the Wide and Tele images for performing position matching to the video output images when switching from an output of the Tele imaging section to an output of the Wide | [Claim 9] wherein the camera controller is further configured to combine, when in still mode, at least some of the Wide and Tele image data to provide a fused output image [claim 13] wherein the camera controller is further configured to combine, when in still mode, at least some of the Wide and Tele image data to provide a fused output image | [Claim 12] wherein the camera controller is further configured to combine in still mode, at a predefined range of ZF values, at least some of the Wide and Tele image data to provide a fused output image of the object or scene from a particular point of view. | [Claim 11] herein the camera controller is further configured to combine in still mode, at a predefined range of ZF values, at least some of the Wide and Tele image data to provide a fused output image of the object or scene from a particular point of view. |

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| | imaging section or vice versa. | | | |
| wherein the video output images are provided with a smooth transition when switching between a lower zoom factor (ZF) value and a higher ZF value or vice versa, | [Claim 7] wherein the switching is between a lower zoom factor (ZF) value and a higher ZF value or vice versa, wherein each output image has a respective output resolution | [Claim 4] wherein the switching is between a lower zoom factor (ZF) value and a higher ZF value or vice versa, wherein each Wide image and Tele image has a respective output resolution, | | |
| wherein at the lower ZF value the output resolution is determined by the Wide sensor, and | [Claim 7] wherein at the lower ZF value the output resolution is determined by the Wide sensor | [Claim 4] wherein at the lower ZF value the output resolution is determined by the Wide sensor | | |
| wherein at the higher ZF value the output resolution is determined by the Tele sensor. | [Claim 7] wherein at the higher ZF value the output resolution is determined by the Tele sensor. | [Claim 4] wherein at the higher ZF value the output resolution is determined by the Tele sensor. | | |
| 12. A method for obtaining zoom images of an object or scene in | 10. A method for providing video digital output in a multiple | 19. A method for providing a digital video output in a multiple | 1. A dual-aperture zoom digital camera comprising: | 1. A zoom digital camera comprising: |

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| both still and video modes using a digital camera, the method comprising the steps of: | aperture zoom digital camera, comprising steps of: | aperture zoom digital camera, comprising steps of: | | |
| a) providing in the digital camera a Wide imaging section having a Wide lens with a Wide field of view (FOV), a Wide sensor and a Wide image signal processor (ISP), | a) providing a Wide imaging section that includes a Wide sensor and a fixed focal length Wide lens with a Wide field of view (FOV), the Wide imaging section operative to output a Wide image; | a) providing a Wide imaging section that includes a Wide sensor and a fixed focal length Wide lens with a Wide field of view (FOV), the Wide imaging section operative to output a Wide image; | a) a Wide imaging section that includes a fixed focal length Wide lens with a Wide field of view FOVw and a Wide sensor, the Wide imaging section operative to provide Wide image data of an object or scene; | a) a Wide imaging section that includes a fixed focal length Wide lens with a Wide field of view (FOV) and a Wide sensor, the Wide imaging section operative to provide Wide image data of an object or scene; |
| a Tele imaging section having a Tele lens with a Tele FOV that is narrower than the Wide FOV, a Tele sensor and a Tele ISP, and a camera controller operatively coupled to the Wide and Tele imaging sections; and | b) providing a Tele imaging section that includes a Tele sensor and a fixed focal length Tele lens with a Tele FOV that is narrower than the Wide FOV, the Tele imaging section operative to output a Tele image; and | b) providing a Tele imaging section that includes a Tele sensor and a fixed focal length Tele lens with a Tele FOV that is narrower than the Wide FOV, the Tele imaging section operative to output a Tele image; and | b) a Tele imaging section that includes a fixed focal length Tele lens with a Tele FOV that is narrower than FOVW and a Tele sensor, the Tele imaging section operative to provide Tele image data of the object or scene; and | b) a Tele imaging section that includes a fixed focal length Tele lens with a Tele FOV that is narrower than the Wide FOV and a Tele sensor, the Tele imaging section operative to provide Tele image data of the object or scene; and |
| b) configuring the camera controller to combine in still mode at least some of the Wide and Tele image data to provide a fused output image of the object or scene from a particular | c) utilizing a controller for reducing an image jump effect seen in video output images and for providing continuous zoom video output images, by executing, with the help | c) when providing video output images, utilizing a camera controller operatively coupled to the Wide and Tele imaging sections to reduce an image jump effect seen in the video | c) a camera controller operatively coupled to the Wide and Tele imaging sections and configured to evaluate if a no-switching criterion is fulfilled or not | c) a camera controller operatively coupled to the Wide and Tele imaging sections and configured to evaluate if a no-switching criterion is fulfilled or not fulfilled, wherein if the |

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| <p>point of view, and to provide without fusion continuous zoom video mode output images of the object or scene, each output image having a respective output resolution,</p> | <p>of the controller, registration between the Wide and Tele images for performing position matching to the video output images when switching from an output of the Tele imaging section to an output of the Wide imaging section or vice versa.</p> | <p>output images when switching from a Wide image to a Tele image by shifting the Tele image relative to the Wide image according to a distance of an object in a Tele image region of interest (ROI), and/or to reduce an image jump effect seen in the video output images when switching from a Tele image to a Wide image by shifting the Wide image relative to the Tele image according to a distance of an object in a Wide image ROI.</p> | <p>zoom factor (ZF) value greater than a zoom factor $ZFT = \text{tangent}(\text{FOVWide})/\text{tangent}(\text{FOVTele})$, if the no-switching criterion is fulfilled the camera controller is further configured to output a zoom video output image that includes only digitally-zoomed Wide image data, and if the no-switching criterion is not fulfilled, the camera controller is further configured to output a zoom video output image that includes only transformed, digitally zoomed Tele image data.</p> | <p>no-switching criterion is fulfilled in a zoom-in operation between a lower zoom factor (ZF) value and a higher ZF value at a zoom factor (ZF) higher than an up-transfer ZF, the camera controller is further configured to output a zoom video output image that includes only Wide image data, and wherein if the no-switching criterion is not fulfilled, the camera controller is further configured to output a zoom video output image that includes only transformed, digitally zoomed Tele image data.</p> |
| <p>wherein the video mode output images are provided with a smooth transition when switching between a lower zoom factor (ZF) value and a higher ZF value or vice versa, and wherein at the lower ZF value the output</p> | <p>[claim 16] wherein the switching is between a lower zoom factor (ZF) value and a higher ZF value or vice versa, wherein each output image has a respective output resolution, wherein at the lower ZF value the output</p> | <p>[claim 22] wherein the switching is between a lower zoom factor (ZF) value and a higher ZF value or vice versa, wherein each Tele image and Wide image has a respective output resolution, wherein at the lower ZF value the</p> | | |

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| resolution is determined by the Wide sensor while at the higher ZF value the output resolution is determined by the Tele sensor. | resolution is determined by the Wide sensor and wherein at the higher ZF value the output resolution is determined by the Tele sensor. | output resolution is determined by the Wide sensor and wherein at the higher ZF value the output resolution is determined by the Tele sensor. | | |
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